

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1 1. (Currently Amended) A conveyor motor for moving a
2 conveyor plate to move objects along the conveyor plate,
3 which comprises:

4 (a) ~~a drive plate movably mounted, having a first~~
5 ~~side and a second side and connected to the conveyor plate;~~
6 (b) ~~a first bellows mounted adjacent the first~~
7 ~~side of the drive plate conveyor plate and configured to~~
8 ~~contact the first side of the drive plate move the conveyor~~
9 ~~plate and having an inlet;~~

10 (c) ~~(b) a second bellows mounted adjacent the~~
11 ~~second side of the drive plate conveyor plate and~~
12 ~~configured to contact the second side of the drive plate~~
13 ~~move the conveyor plate and having an inlet; and~~

14 (d) ~~(c) a main control valve in fluid~~
15 ~~communication with the inlet of the first bellows and the~~
16 ~~inlet of the second bellows wherein the main control valve~~
17 ~~is configured such that a rate of inflation of the second~~
18 ~~bellows is greater than a rate of inflation of the first~~

19 bellows.

1 2. (Original) The conveyor motor of Claim 1 wherein the
2 first and second bellows are mounted such as to be coaxial.

1 3. (Currently Amended) The conveyor motor of Claim 1
2 wherein an end of the first bellows ~~opposite the drive~~
3 ~~plate~~ is mounted to a first end plate, and wherein an end
4 of the second bellows ~~opposite the drive plate~~ is mounted
5 to a second end plate, ~~wherein a first pair of guide rods~~
6 ~~having first and second ends are fixably mounted adjacent~~
7 ~~the first ends to the first end plate and are fixably~~
8 ~~mounted adjacent the second ends to the second end plate~~
9 ~~and wherein the drive plate is movably mounted on the first~~
10 ~~pair of guide rods spaced between the first and second end~~
11 ~~plates.~~

4. (Cancelled)

5. (Cancelled)

1 6. (Original) The conveyor of Claim 1 wherein a first
2 valve is in fluid communication with the inlet of the first
3 bellows and controls a flow of fluid into and out of the
4 first bellows.

1 7. (Original) The conveyor of Claim 1 wherein a second
2 valve is in fluid communication with the inlet of the
3 second bellows and controls a flow of fluid into and out of
4 the second bellows.

1 8. (Currently Amended) The conveyor of Claim 1 wherein a
2 first limit switch is mounted adjacent the ~~first side of~~
3 ~~the drive plate first bellows~~, wherein a second limit
4 switch is mounted adjacent the ~~second side of the drive~~
5 ~~plate bellows~~ and wherein the first and second limit
6 switches are connected to the main control valve.

1 9. (Original) The conveyor of Claim 8 wherein the first
2 and second limit switches are pneumatic switches which are
3 in fluid communication with the main control valve.

1 10. (Original) The conveyor of Claim 8 wherein a flow
2 control valve is connected between at least one of the
3 first or second limit switches and the main control valve
4 and wherein the flow control valve is configured to adjust
5 a signal between one of the first and second limit switches
6 and the main control valve to control a time of activation
7 of the main control valve.

1 11. (Original) The conveyor of Claim 10 wherein the flow
2 control valve is configured to delay the time of activation
3 of the main control valve.

1 12. (Original) The conveyor of Claim 8 wherein a first
2 flow valve is connected between the first limit switch and
3 the main control valve and a second flow valve is connected
4 between the second limit switch and the main control valve,
5 wherein a bi-directional switch is positioned between the
6 first and second flow valves and the main control valve and
7 wherein the bi-directional switch is configured to select
8 one of the first or second limit switches depending on a
9 direction of flow of the objects along the conveyor plate.

13. (Cancelled)

1 14. (Original) The conveyor motor of Claim 1 wherein the
2 first and second bellows are air bellows.

1 15. (Currently Amended) A conveyor for moving objects,
2 which comprises:

3 (a) a conveyor plate;

4 (b) a housing;

5 (b) a drive plate having a first side and a
6 second side and movably mounted in the housing;

7 (c) a first bellows mounted in the housing
8 adjacent the first side of the drive plate and configured
9 to contact move the first side of the drive conveyor plate
10 in a first direction and having an inlet;

11 (d) a second bellows mounted in the housing
12 adjacent the second side of the drive plate and configured
13 to contact the second side of move the drive conveyor plate
14 in a second direction and having an inlet; and

15 (e) a main control valve in fluid communication
16 with the inlet of the first bellows and the inlet of the
17 second bellows wherein the main valve is configured such
18 that a rate of inflation of the second bellows is greater

19 than a rate of inflation of the first bellows.

1 16. (Original) The conveyor of Claim 15 wherein the first
2 and second bellows are mounted such as to be coaxial.

1 17. (Currently Amended) The conveyor of Claim 15 wherein
2 an end of the first bellows ~~opposite the drive plate~~ is
3 mounted to a first end plate and wherein an end of the
4 second bellows ~~opposite the drive plate~~ is mounted to a
5 second end plate.

1 18. (Currently Amended) The conveyor of Claim 17 wherein
2 a first pair of guide rods having first and second ends are
3 fixably mounted adjacent the first ends to the first end
4 plate and are fixably mounted adjacent the second ends to
5 the second end plate ~~and wherein the drive plate is movably~~
6 ~~mounted on the first pair of guide rods spaced between the~~
7 ~~first and second end plates.~~

1 19. (Currently Amended) The conveyor of Claim 18 wherein
2 a second pair of guide rods having first and second' ends
3 are fixably mounted adjacent the first ends to the first
4 end plate and are fixably mounted adjacent the second ends
5 to the second end plate ~~wherein the drive plate is movably~~
6 ~~mounted on the second pair of guide rods~~ and wherein the
7 second pair of guide rods are spaced apart from and
8 parallel to the first pair of guide rods.

1 20. (Currently Amended) The conveyor of Claim ~~15~~ 18
2 wherein a the conveyor plate is ~~mounted on an end of the~~
3 ~~drive plate connected to the first pair of guide rods.~~

1 21. (Original) The conveyor of Claim 15 wherein a first
2 valve is in fluid communication with the inlet of the first
3 bellows and controls a flow of fluid into and out of the
4 first bellows.

1 22. (Original) The conveyor of Claim 15 wherein a second
2 valve is in fluid communication with the inlet of the
3 second bellows and controls a flow of fluid into and out of
4 the second bellows.

Trestain 4.1-3
Appl. No. 10/820,690
Amdt. dated July 7, 2004
Prior to first Office Action

1 23. (Currently Amended) The conveyor of Claim 15 wherein
2 a first limit switch is mounted adjacent the first ~~side of~~
3 ~~the drive plate bellows~~, wherein a second limit switch is
4 mounted adjacent the second ~~side of the drive plate bellows~~
5 and wherein the first and second limit switches are
6 connected to the main control valve.

1 24. (Original) The conveyor of Claim 23 wherein the first
2 and second limit switches are pneumatic switches which are
3 in fluid communication with the main control valve.

1 25. (Original) The conveyor of Claim 23 wherein a flow
2 control valve is connected between at least one of the
3 first or second limit switches and the main control valve
4 and wherein the flow control valve is configured to adjust
5 a signal between one of the first and second limit switches
6 and the main control valve to control a time of activation
7 of the main control valve.

1 26. (Original) The conveyor of Claim 25 wherein the flow
2 control valve is configured to delay the time of activation
3 of the main control valve.

1 27. (Original) The conveyor of Claim 23 wherein a first
2 flow valve is connected between the first limit switch and
3 the main control valve and a second flow valve is connected
4 between the second limit switch and the main control valve,
5 wherein a bi-directional switch is positioned between the
6 first and second flow valves and the main control valve and
7 wherein the bi-directional switch is configured to select
8 one of the first or second limit switches depending on a
9 direction of movement of the objects.

28. (Cancelled)

1 29. (Currently Amended) The conveyor of Claim 15 wherein
2 the housing has a bottom wall, a first and second end wall
3 and a first and second side wall forming an inner chamber
4 and wherein the ~~drive plate~~, first and second bellows and
5 main control valve are mounted in the inner chamber of the
6 housing.

1 30. (Currently Amended) The conveyor of Claim 29 wherein
2 a the conveyor plate ~~is mounted on an end of the drive~~
3 plate and forms a top wall of the housing.

1 31. (Original) The conveyor of Claim 30 wherein a crossbar
2 is mounted on the conveyor plate and wherein a conveyor
3 tray for holding the objects is mounted on the crossbar.

1 32. (Currently Amended) A method for moving objects, which
2 comprises:

3 (a) providing a conveyor including a conveyor
4 motor having a ~~drive plate with a first and second side and~~
5 a conveyor plate ~~connected to the drive plate~~; a first
6 bellows adjacent to and configured to ~~contact move~~ the
7 ~~first side of the drive conveyor plate~~ and having an inlet;
8 a second bellows adjacent to and configured to ~~contact move~~
9 the ~~second side of the drive conveyor plate~~, and having an
10 inlet; and a main control valve in fluid communication with
11 the inlet of the first bellows and the inlet of the second
12 bellows;

13 (b) providing a fluid source;

14 (c) connecting the fluid source to the main
15 control valve;

16 (d) activating the main control valve ~~such so~~
17 that fluid flows from the fluid source into the inlet of
18 the first bellows ~~such that and inflates~~ the first bellows
19 ~~inflates~~ at a predetermined rate of inflation of the first

20 bellows wherein as the first bellows inflates, the first
21 bellows ~~contacts the drive plate and moves the drive~~
22 conveyor plate toward the second bellows;

23 (e) activating the main control valve such so
24 that the fluid stops flowing to the first bellows and such
25 so that fluid flows from the fluid source into the inlet of
26 the second bellows ~~such that and inflates~~ the second
27 bellows ~~inflates~~ at a predetermined rate of inflation
28 wherein as the second bellows inflates, the second bellows
29 ~~contacts the drive plate and moves the drive~~ conveyor plate
30 toward the first bellows ~~such that and~~ the first bellows
31 deflates, wherein the predetermined rate of inflation of
32 the second bellows is greater than the predetermined rate
33 of inflation of the first bellows;

34 (f) activating the main control valve such so
35 that the fluid stops flowing to the second bellows and such
36 so that fluid flows to the first bellows ~~such that and~~
37 inflates the first bellows ~~is inflated~~ at the predetermined
38 rate of inflation of the first bellows and ~~wherein as the~~
39 ~~drive plate moves toward the second bellows,~~ the second
40 bellows deflates; and

41 (g) placing the objects on the conveyor plate and
42 repeating steps (e) and (f) to move the objects along the

43 conveyor plate.

1 33. (Original) The method of Claim 32 wherein in step (e)
2 stoppage of the flow of fluid to the first bellows and
3 initiation of the flow of fluid to the second bellows occur
4 simultaneously.

1 34. (Original) The method of Claim 32 wherein in step (f)
2 stoppage of the flow of fluid to the second bellows occurs
3 prior to initiation of the flow of fluid to the first
4 bellows.

1 35. (Currently Amended) The method of Claim 32 wherein in
2 steps (d) and (f) the flow of fluid from the fluid source
3 to the inlet of the first bellows gradually increases from
4 no flow to full flow.

1 36. (Original) The method of Claim 32 wherein first and
2 second limit switches are provided and are connected to the
3 main control valve, wherein in steps (d), (e), (f) and (g)
4 the main control valve is activated by one of the limit
5 switches.

1 37. (Original) The method of Claim 36 wherein the first
2 and second limit switches are pneumatic switches and
3 wherein in step (c) the fluid source is connected to the
4 limit switches.

1 38. (Original) The method of Claim 36 wherein a flow
2 control valve is positioned between the second limit switch
3 and the main control valve and wherein in step (f) the flow
4 control valve controls a speed at which the main control
5 valve is activated.

1 39. (Original) The method of Claim 36 wherein a flow
2 control valve is positioned between the second limit switch
3 and the main control valve and wherein in step (f) the flow
4 control valve controls the predetermined rate of inflation
5 of the first bellows.

1 40. (Original) The method of Claim 36 wherein a first
2 flow valve is connected between the first limit switch and
3 the main control valve and a second flow valve is connected
4 between the second limit switch and the main control valve,
5 wherein a bi-directional switch is positioned between the
6 first and second flow valves and the main control valve and
7 wherein the bi-directional switch is configured to select
8 one of the first or second flow valves depending on a
9 direction of flow of the objects along the conveyor plate
10 wherein prior to step (d) the bi-directional switch is
11 activated such that in steps (d), (e) and (f) the
12 predetermined rate of inflation of the first bellows and
13 the predetermined rate of inflation of the second bellows
14 are adjusted depending on which of the first or second flow
15 valves is selected.

1 41. (New) The conveyor motor of Claim 1 wherein the
2 first bellows is configured to move the conveyor plate in
3 a first direction.

1 42. (New) The conveyor motor of Claim 41 wherein the
2 second bellows is configured to move the conveyor plate in
3 a second direction.

Trestain 4.1-3
Appl. No. 10/820,690
Amdt. dated July 7, 2004
Prior to first Office Action

1 43. (New) The conveyor motor of Claim 3 wherein the
2 first bellows is configured to move the conveyor plate
3 toward the second end plate and the second bellows is
4 configured to move the conveyor plate toward the first end
5 plate.